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**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

HEADWATER RESEARCH LLC,

Plaintiff,

vs.

**AT&T SERVICES, INC., AT&T MOBILITY,
LLC AND AT&T CORP.,**

Defendants.

Civil Action No. 2:23-cv-00397

LEAD CASE

JURY TRIAL

HEADWATER RESEARCH LLC,

Plaintiff,

vs.

**AT&T SERVICES, INC., AT&T MOBILITY,
LLC AND AT&T CORP.,**

Defendants.

Civil Action No. 2:23-cv-00398

JURY TRIAL

**EXPERT REPORT OF MARK E. CROVELLA, PH. D. REGARDING INVALIDITY OF
U.S. PATENT NOS. 8,589,541 AND 9,215,613**

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data and Wi-Fi are off, any attempt by a background application to establish a data connection will fail.

IX. STATE OF THE ART

A. Conventional, Well-Known Elements of the Asserted Patents

101. The Asserted Patents primarily focus on technology designed to improve mobile devices. When the Asserted Patents were allegedly invented, on May 25, 2010, mobile devices had already reached a high level of development and were in widespread use. Consequently, many of the elements of the Asserted Claims were unquestionably conventional and widely recognized at the time of the alleged invention.

102. Simply by way of example, the following concepts mentioned in various Asserted Claims were widely recognized in the field of wireless communications at the time of the alleged invention, as evidenced by disclosures in the prior art

1. Foreground/Background Applications

103. At the time of the alleged invention, a POSITA would have been keenly aware of the need to optimize resource usage in mobile devices to conserve system resources, extend battery life, diminish network congestion, and lower costs by limiting data usage, by applying traffic control policies depending on whether an application is operating in the foreground or background. In fact, many systems and publications from that time disclosed such features. For example, specific Android OS versions did this before the alleged inventions as explained elsewhere. *See infra* Section XV(D)(1)(a)(x). Likewise, references such as Cole²³ (discussed in Section XIII(D) below) also differentiated between foreground and background applications. Lastly, at least the following references from the period surrounding the alleged invention distinguished between

²³ ATT_HEADWATER_00054592-54619.

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138. As per the specification, the disclosed system uses a policy, or, rather, a set of policies, to prioritize network traffic. *Id.* at 108:10-20 (“the application traffic prioritization engine 2710 uses a policy . . . to determine an appropriate prioritization for traffic to and/or from the network service consuming application”). The system can subsequently choose to either “cause[] the network consuming application 2702 traffic to be queued in the application traffic cache 2716” or “restrict network access of a particular usage activity” (e.g., background activity). *Id.* at 108:26-67.

139. For instance, the device 2700 of Fig. 27 shown above may,

[B]lock[] chatter for an application running in the background that is attempting to report device or user behavior. The application traffic prioritization engine 2710 determines that the chatter has zero priority, such that the network service consuming application 2702 is prevented from consuming any resources. The user can be sent a notification by the application traffic override engine 2718 that their control policy prohibits the application from consuming network resources, but that the user can opt to deviate from the control policy if they are willing to pay for the consumed resources. If the user is willing to pay for the resources, traffic can be sent at a certain rate from the application traffic cache 2716 through the network interface 2720, or perhaps sent without using the application traffic cache 2716.

Id. at 108:53-67.

140. The specification offers further examples, including “throttling” the rate at which software updates are received. *Id.* at 109:1-9.

XI. PRIORITY DATE OF THE ASSERTED PATENTS

141. I understand that Headwater contends that the Asserted Patents are entitled to a priority date of May 25, 2010. *See* Headwater’s 2nd Supp. Objections and Responses to AT&T’s First Set of Interrogatories No. 2 at 9-10 (“Headwater presently contends that the ’613 and ’541 Patents are entitled to a priority date no later than May 25, 2010, which is the filing date of U.S. Patent Provisional Application 61/348,022 (‘022 Application’).”). Accordingly, for purposes of

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my analysis in this Report, I have used Headwater's alleged date of May 25, 2010. I reserve the right to revise my opinions should Headwater later attempt to rely on an earlier priority date.

XII. PENDING IPRS ON THE ASSERTED PATENTS

142. I understand that AT&T filed petitions for *Inter Partes* Review (IPR) on all the Asserted Patents and that the status of those IPRs varies by patent. I understand that the IPR petitions assert invalidity grounds that are separate and distinct from any of the invalidity grounds set forth in this report, although certain prior art used in petitions that were denied institution may be used in this report. I understand that as of the filing of this Report, the status of the IPR petitions is as follows:

Patent No.	IPR Case No.	Challenged Claims	Filing Date	Institution Status
US 8,589,541	IPR2024-00942	1, 3-6, 8-23, 26, 45, 49, 50, 58-60, 64, 157, 165, 169, and 171	6/7/2024	12/4/2024: Granted
US 8,589,541	IPR2024-00943	1, 91-96, 99, 102-138, 140-152, and 158-159	6/7/2024	12/4/2024: Granted
US 8,589,541	IPR2024-00944	1, 24-25, 28, 34-35, 39, 61-62, 79-83, 87-90, and 172	6/7/2024	12/4/2024: Denied
US 9,215,613	IPR2024-00945	1-14, 16, 18-23	6/7/2024	12/16/2024: Denied

XIII. OVERVIEW OF THE PRIOR ART**A. Android System Art****1. Prior Art Status**

143. Mobile devices running the Android operating system ("Android OS") were made available to the U.S. public as early as September 2008 and qualifies as prior art under at least pre-AIA U.S.C. §§ 102(a) and/or (b). As I discuss in my report, the T-Mobile G1 (HTC Dream) running Android 1.0, which was released in September 2008, was announced on September 23,

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Dated: January 29, 2025



Mark Crovella, Ph.D